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REVISION OF THE THROSCIDAE OF NORTH AMERICA
(COLEOPTERA)

BY FREDERICK BLANCHARD

[In offering the following treatment of our species of Throscidae, a few words should be said by way of introduction. The manuscript was written by Mr. Blanchard some ten years ago, but was never quite finished, there being certain obscure or doubtful points concerning which he hoped to obtain further information. The desired light, however, was not forthcoming, the borrowed material was returned, other interests supervened and the manuscript was laid aside, and apparently received little if any further attention. On my next visit to New England after Mr. Blanchard's death in November, 1912, this manuscript together with all his other miscellaneous entomological notes were, in accordance with his own request, turned over to me. Although essentially completed, in that the characterizations of the genera, tables of species and specific descriptions had been written, still no final draft had been prepared for the printer, and considerable labor has been required in arranging, correcting, copying, etc., etc. This work has been cheerfully if somewhat tardily done, in order that the time and effort expended by its author shall not have been wasted, and that one more paper may be added to the altogether too few which we have from one whom I have no hesitation in pronouncing one of the keenest, if not the keenest, and most competent of all the students of our Coleoptera.]

That Blanchard made so few contributions to systematic Coleopterology is due largely to two causes. First, because so large a share of his leisure was devoted to the interests of his numerous entomological correspondents, and again because of his unwillingness to publish anything without having acquired complete and exhaustive information on the subject. How nearly impossible of attainment is this latter condition, is well known to anyone who has attempted to prepare a review of even a very small group of our Coleoptera. The desire for thoroughness, therefore, however laudable up to a certain point, results, if carried to extremes, in depriving us even of the half loaf, which is certainly better than no bread.

In the following pages everything is to be accredited to the author of the manuscript, except such statements as are enclosed in brackets or placed as footnotes. No bibliography was prepared by Mr. Blanchard. For such, consult Horn's paper¹ for the older species. The others are for the first time described in the present paper, except a small number by Mr. Schaeffer, which appeared in the Bulletin of the Brooklyn Entomological Society.²

H. C. FALL.]

Linnaeus, in 1767, described *Elatер dermestoides*, which was later (1796) made the basis for Latreille's genus *Throscus*. There has been more or less discussion as to the systematic position of the genus and its associates ever since; Lacordaire, Bonvouloir and LeConte ranking the group as a family, while later writers consider that it forms a subfamily of the Elateridae, returning to the Linnaean conception, and Dr. Horn in the *Biologia*, without discussing the subject, admits that it does not differ in any important respect from Elateridae.

In the classification of LeConte and Horn it is said of the Throscidae that "they do not possess the power of leaping, like most species of the Elateridae, and the fixity of the prothorax on the trunk would show that any such act is mechanically impossible." This has not, however, always been held and it was affirmed by some of the earlier writers to the contrary. A little examination of the pro- and meso-sternum shows the existence of a structure more or less analogous to that of the Elateridae, and close observations of the living insects in the genera *Throscus*

²Trans. Am. Ent. Soc., xii, p. 198, (1885).

¹1916, p. 62.

and *Aulonothroscus* demonstrates their capacity of leaping in a small way, there being in life really considerable mobility of the prothorax at its junction with the posterior part of the body. I have no doubt that the other genera possess the same power, but I have not been able to verify it. It might be observed that the definition of the "family" in the classification is somewhat imperfect, in that it ascribes to the entire group some characters which are found only in one of the two tribes into which it is separated.

Since Dr. Horn's "Synopsis"—1885—collections have greatly increased, so that by the kindness of many correspondents I have been able to examine nearly a thousand specimens. Mr. Rene Oberthür of Rennes, France, the present possessor of the Bonvouloir types, has very obligingly compared a series of specimens sent him by me for the purpose. I am also indebted to M. Edw. Fleutieux for friendly encouragement, and for the loan of material to Mr. Henshaw of the Harvard Museum at Cambridge, Dr. L. O. Howard of the National Museum, Dr. Skinner of the Academy of Natural Sciences, Philadelphia, Messrs. Fall, Van Dyke, Fuchs, Blaisdell, Leng, Roberts, Beutenmüller, Schaeffer, Joutel, Liebeck, Dr. Castle, Chittenden, Dury, Wickham, Bowditch, Richardson and D. B. Young.

The subfamily Throscinae is like most other Elateridae in having a posterior prosternal spine, a mesosternal striking point strongly chitinated, and a fossa receiving the spine, and in having the hind coxae contiguous on the median line. It differs by the very close adaptation of the pro- and mesosternum, as pointed out by LeConte and Horn in the classification, the front and middle coxae deeply immersed, the anterior ones almost hidden by the broad process which is infracoxal as well as intercoxal.

Two very distinct tribes are indicated,—the Lissomini and the Throscini. In the latter and in the genus *Drapetes* of the former tribe, the last ventral segment overlaps the apices of the elytra, engaging the slightly explanate inferior margin which is formed by a continuation of the epipleura, thus more securely locking the elytra. The same adaptation exists in all Eucneminae that I have examined except in *Iorhipis* (*Tharops*). The epipleura in most Elateridae apparently terminating opposite the hind coxae, are in fact turned inward, the inner margin forming

a longitudinal internal carina nearly or quite to the apex, against which rests the acute margin of the abdomen. In the only *Lissomus* I have been able to examine the elytra are free at apex, as in most Elaterinae.

The tribes and genera of Throscinae separate as follows:

Anterior and middle trochanters long; prosternum lobed in front.

LISSOMINI

Anterior and middle trochanters short; prosternum truncate in front.

THROSCINI

LISSOMINI

Claws toothed at base; metasternum with oblique impressed line; pygidium projecting slightly beyond the elytra. **Drapetes**

THROSCINI

Antennae fusiform; tarsi simple. **Pactopus**

Antennae clavate; tarsi with fourth joint bilobed.

Metasternum with long oblique groove for the reception of the middle tarsi **Aulonothroscus**

Metasternum with tarsal grooves very short and only feebly diverging from femoral sulcus. **Throscus**

LISSOMINI

This tribe is chiefly tropical, only two species of *Drapetes* being in the European catalogues and five in our own fauna. The species, as a rule, are larger with a more or less polished surface and with a more varied coloring than in the Throscini. The mandibles are bifid, the prosternum is strongly lobed, the anterior and middle trochanters are slender and elongate, and the antennae are serrate or even pectinate from the fourth to the tenth joints, and in repose rest not in well defined sulci, but in pockets or enclosed cavities in the anterior part of the flanks of the prothorax, reaching quite to the side margin under the sides of the pronotum, the openings being along the anterior part of the prosternal sutures. The antennae when withdrawn are in the form of a loop, the terminal joints frequently visible in the opening and pointing forward. In one specimen of *D. rubricollis* the pronotum was so translucent that the antennae could be seen beneath at the sides. In *Drapetes* the mesosternum has a striking lobe to engage the prosternal spine, horizontal and much as in ordinary Elaterinae, while in the Melasinae (*Eucneminae*)

the mesosternum is truncate and without a specially developed striker. The tarsi have joints one to four strongly lobed or lamellate beneath, recalling as has been noted the genus *Galba* in Melasinae.

DRAPETES Redtenbacher

Our species have the tarsal claws toothed at base; the metasternum with an impressed oblique line occupying the position of the tarsal grooves in *Pactopus* and *Aulonothroscus*: the prosternum each side with two approximate carinae, a marginal and an inner, reaching from the coxae to the base of the anterior lobe: elytra with a humeral carina which is the basal termination of a submarginal stria, the true elytral margin being below the carina. The carina of the basal angles of the thorax is well marked except in *ecarinatus*, where it is rather obtuse. In *geminatus* and *niger* it is very long. No sexual external characters except size have been noticed in any of our species.

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| Black, elytra each with ante-median red spot or fascia... 1. geminatus | |
| Black, immaculate..... var. nitidus | |
| Prothorax as wide as elytra at base, sides not sinuate; entirely black, elytra with posterior fascia of white hairs, sometimes reaching the apex 2. niger | |
| 3. Elytra without sutural striae..... | 4 |
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| 5. Black, elytral humeri red..... | 5. ecarinatus |

1. *Drapetes geminatus* Say

Black, shining, punctate and with rather sparse, suberect pubescence; elytra with a broad, red fascia a little before the middle, which may be continuous and rarely extends upon the epipleura, or be reduced to a spot of greater or less magnitude, or even in var. *nitidus* entirely disappear. Length 3 to 4 mm.

Some specimens show a posterior fascia of white hairs, though less marked than in *niger*. This does not seem to depend upon the state of preservation or the sex, but to be purely individual.

Specimens have been seen with the elytral spots very small, but the type of *nitidus* Melsheimer remains unique; it strongly suggests the next species. Specimens are sometimes seen a little less or a little greater than the measurements given.

It is known from Canada and every state east of the Mississippi except Maine, Rhode Island, Connecticut, Delaware, South Carolina, Wisconsin, Indiana, Alabama, Mississippi and Louisiana, and has been seen or recorded from Iowa, Missouri, Kansas and Texas.

2. *Drapetes niger* Bonvouloir

Elongate, slightly narrower behind, black, shining, the upper surface with two kinds of pubescence, fine dark hairs occupying the disk of the pronotum, where they are suberect, and on the disk and apex of the elytra; more conspicuous white hairs, not closely placed, on the head, anterior and posterior angles of the pronotum, on the humeri, and forming a distinct post-median band on the elytra. Frontal margin of head broadly rounded, slightly reflexed; head moderately, rather sparsely punctate and slightly impressed before the vertex in one specimen, not in the other; antennae inserted under the front, serrate, black except first and second joints which are testaceous. Pronotum rather sparsely punctate, a few of the punctures behind the middle much coarser, about as long as wide at base or perhaps a little less, as wide at base as the elytra, thence gradually, feebly narrowed to the anterior third and then strongly rounded to apex; margin fine, anterior angles much advanced before the middle of the apical margin, lateral carina long, reaching two-thirds the length of the pronotum. Elytra finely, sparsely punctate, gradually narrowing from base and broadly, feebly arcuate to near the tips, thence strongly rounded, punctures finer than those of the pronotum and with a subserial arrangement. Beneath black, finely cinereous pubescent; trochanters, tibiae and tarsi more or less reddish; basal half of prosternum bisulcate, the interval as broad as the sulci, a very few sparse and fine punctures in front, the lobe finely margined at apex and sparsely punctate; sides beneath coarsely, not closely punctate, metasternum more finely, sparsely punctate, abdomen more closely and regularly, finely punctate, the punctures smaller than those of the metasternum. Length 3 mm.

The above rather detailed description is drawn from two specimens found by Mr. Chas. Schaeffer at Brownsville, Texas. It was originally described from Mexico. Rather singularly Dr. Horn, in the *Biologia*, where it is figured, omits any mention of the lateral carinae of the pronotum.

3. *Drapetes rubricollis* LeConte

Elongate oval, head and underside except the prothorax, black, the latter bright red; elytra deep blue, distinctly, not closely punctate, surface shining, clothed above with suberect stiff hairs, white on the head and elytral apices,

dark or blackish on the thorax and elytra except as mentioned. The apical white hairs are sometimes indistinct. Antennae and palpi piceous, the former serrate. Length 2.5 to 3.25 mm.

Occurs in North Carolina, South Carolina, Georgia, Florida (Biscayne and Key Largo) and Arkansas.

4. *Drapetes quadripustulatus* Bonvouloir

Piceous black, shining, very sparsely pubescent, each elytron with a sub-humeral and subapical reddish spot, the latter smaller. Length 2.75 to 4 mm.

"Wisconsin to Florida" according to Horn: Kansas (Snow). Specimens are known to me from Maryland, North Carolina, Florida, Ohio, Missouri, Louisiana, Mississippi and Texas.

5. *Drapetes ecarinatus* Schaeffer³

Elongate, subparallel, convex, entirely black except a small humeral area extending upon the epipleura, which is bright red; upper surface glabrous and shining, the head sparsely hairy, and a few whitish hairs along the sides of the thorax, and with underside and legs finely pubescent. Head very sparsely, irregularly punctate, the punctures a little closer at the sides; eyes not prominent, feebly convex, antennae strongly serrate, entirely black, basal joint rather coarsely punctate.

Prothorax a little wider at base than long and as wide as the base of the elytra, sides slightly narrowing from base and feebly sinuate, thence strongly arcuate to anterior angles, which are somewhat more produced than the middle of the upper margin, so that the apex is broadly emarginate and scarcely more than half as wide as the base; convex with the sides tumid so that the fine lateral margin is inferior and hidden from above; punctures fine anteriorly, at middle and sides, becoming coarser behind, sparser and more irregular on the disk and at the middle of the base, closer and more regularly placed towards the sides behind, a marginal series bearing short hairs; a faintly elevated, smooth line at middle of basal third; base broadly lobed and feebly sinuate at middle, strongly obliquely sinuate each side, the hind angles acute, produced behind a little further than the basal lobe. Scutellum equilateral, feebly arcuate in front, more strongly at sides, acute behind. Elytra finely, sparsely, subseriatly punctate, punctures becoming finer at base and at the sides anteriorly, convex, nearly twice longer than wide, subparallel, feebly wider behind the humeri and broadly arcuate, apex obtuse. There is a fine subsutural stria reaching neither base nor apex; submarginal striae carinate in front. Prosternum bicarinate each side to base of lobe, finely sulcate each side at basal half, the sulci disappearing before and succeeded by two or three punctures each side; there is also a line of distinct hair-bearing punctures just

³Bull. Brooklyn Ent. Soc., 1916, p. 62. [I give herewith Mr. Blanchard's detailed description, replacing the specific name used by him by that under which Mr. Schaeffer has recently described the species. H. C. F.]

within the outer carina; lobe margined in front, sparsely, rather coarsely punctate; flanks coarsely, not closely, variolate punctate, with hairs. Meso-metasternal suture fine but distinct. Mesosternum smooth, impunctate and glabrous narrowly along the middle and along the posterior margin, sparsely, gradually more coarsely punctate at sides, the punctures bearing short hairs; a somewhat sinuous impressed line reaching from middle coxae obliquely two-thirds toward outer hind angle of metasternum. Anterior and middle coxae deeply inserted and narrowly separated by the prominent lateral extension of the mesosternum. Episterna of metasternum very narrow and impunctate in front, a little wider and punctate behind; epimera not visible. Abdomen finely, rather closely punctate and pubescent, punctures a little coarser on last segment; segments one to four equal, fifth longer, with apex strongly arcuate. Legs black, finely, sparsely punctate and pubescent. Length 4.5 to 4.75 mm.

Lower California: Santa Rosa; El Taste.

This species is only equalled in size in our fauna by *Aulonothroscus validus* and *Pactopus hornii*. In the Biologia Dr. Horn says of the very fine antennal stria in certain species that it is sometimes present, at others absent. The few specimens taken by Mr. Beyer all show it, but it is possible examples may occur without it.

THROSCINI

In this tribe the mandibles are entire and acute at tip, the antennae clavate, or in *Pactopus* fusiform, in repose resting in open grooves extending along the prosternal sutures, thence bent outward across the posterior part of the flanks of the prothorax nearly to the side margin; the prosternum is truncate; the anterior and middle trochanters are short; the anterior femora have a distinct angle, and the middle femora a denticiform angle at base on the upper side, serving to yet more firmly fix the femur when retracted. This structure was called to my attention by M. Fleutieux, to whom it was communicated by M. Louis Bedel. The mesosternum at middle before the fossa is produced in a prominent vertical lamina (recalling the structure seen in *Philhydus*), against the compressed and excavated sides of which rest the anterior coxae, while the free angle forms the striking point for the prosternal spine, which when released slips along the lower surface into the meso-fossa as in Elateridae.

PACTOPUS Latreille

Besides the characters in the table and in the description below, it should be mentioned that the middle and posterior

tarsi are received in narrow oblique grooves upon the metasternum and the first three segments of the abdomen respectively. The first segment of the abdomen each side of the middle, is obliquely crossed by a distinctly elevated line, which limits the inner margin of the shallow excavation which receives the end of the tibia in repose.

Pactopus horni LeConte

Very elongate, dull or feebly shining, finely and closely punctulate above and below, clothed with fine prostrate hair, no coarser hairs intermixed. Head convex, punctate, eyes orbicular, moderate, feebly nicked by the encroaching of the feeble supra-antennal ridges, orbits impressed. Antennal fossae open, the clypeus wider in front; antennae fusiform, first joint scarcely longer than the next two, second a little shorter, third and following about as wide as long, gradually increasing in size, last joint longer, subacute at tip, received in cavities or grooves extending along the prosternal sutures, thence abruptly outward to hind angles.

Prothorax a little less than twice as wide at base as long, hind angles strongly produced behind, embracing the base of the elytra, the sides margined to the middle or beyond from the base, strongly arcuate and cariniform in the males at base, thence deeply sinuate and narrowed to apex, which is but little more than one-half as wide as the base. In the female the prothorax is less arcuate at the sides of base because only feebly sinuate and more obliquely narrowed to apex, base broadly and deeply sinuate each side and broadly lobed at middle, disk convex, flattened across the base, rather coarsely and closely punctate; scutellum narrow, elongate. Elytra elongate, depressed at base, somewhat obliquely impressed behind the humeri, especially in the males, gradually narrowed behind, more arcuately in the female; striae fine but well marked, closely set with punctures which, on the disk, are a little wider than the striae; the striae entire, reaching from base to apex except that on the humeri; they are somewhat obsolete or interrupted, and the second and third are shorter at apex, ninth extending around the apical border to the sutural, intervals flat, impunctate; inferior margin received by the projecting and overlapping last ventral.

Prosternum rather narrow, sparsely punctate and pubescent, striae entire or nearly so, divergent in front, on both sides of antennal grooves coarsely and closely punctate; metasternum anteriorly and at sides rather coarsely punctate, more finely at middle behind, a short, fine, median, smooth line more or less evident. Abdomen more coarsely punctate at sides especially anteriorly, more finely and sparsely at middle and on last segment. Anterior tibiae sinuate and narrowed at apex on outer side; tarsi with first joint equal to second and third, last joint long. Length 3 to 5 mm.

There is but one species known; it is, like many others of the family, very variable in size. As has already been indicated in Henshaw's Third Supplement to the "List" *P. fuchsi* Casey is

not different, it being by the description evidently based upon females of this species.

Northern California; Nevada; Oregon; Washington; Vancouver, British Columbia. I have seen about fifty specimens in all.

AULONOTHROSCUS Horn

The character in the table of genera is about the only one observed. The side margin of the thorax is as a rule longer than is usually the case in our species of *Throscus*. Most of the species are more robust and more coarsely sculptured than in *Throscus*, and many have the antennal club of the male pectinate and that of the female feebly pectinate. A smaller number—viz.—*punctatus*, *validus*, *laticeps* and *calocerus*, have the metasternum with a very fine, long and soft pubescence, which is easily obscured by careless mounting.

Table of Species

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Elytral striae with rounded punctures.....6
5. Form very elongate; prosternal striae more divergent; antennal club similar in the sexes.....1. **parallelus**
Form shorter; antennal club in male much broader than in female.
2. **teretrius**
6. Punctures of elytral intervals not close, as large as those of the pronotum, male antennae broader.....3. **schwarzi**
7. Punctures fine, simple.....4. **punctatus**
Punctures variolate; pubescence finer.....5. **validus**
8. Antennae and eyes differing in the sexes.....9
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Elytral intervals closely punctate; entirely dark brown....7. **calocerus**
10. Prothorax strongly impressed each side at base; punctuation coarse.
8. **constrictor**
Prothorax feebly impressed at base; punctuation and elytral striae extremely fine; size very small.....9. **detritus**

11. Eyes with a small semicircular emargination; cephalic carinae distant, converging to the clypeus but not uniting, thence feebly diverging on the front.....10. **distantis**
 Eyes deeply triangularly emarginate.....12
12. Cephalic carinae parallel from the occiput to the front, divergent on the front.....11. **pugnax**
 Cephalic carinae approximate, converging and confluent in front, thence diverging on the front.....12. **convergens**
 Clypeus tuberculate, carinae parallel above.....13. **nodifrons**

[*Aulonothroscus rugosiceps* Schaeffer⁴ was unknown to Mr. Blanchard and I have not thought best to modify his table to insert it. It is said by Mr. Schaeffer to be related by its entire eyes and long, entire prosternal striae to *constrictor*, from which it differs in the distinctly carinate hind angles of the prothorax, the carinate head, and the absence of the basal impressions of the prothorax, which are very pronounced in *constrictor*. Length 4 mm. Brownsville, Texas. H. C. F.]

1. *Aulonothroscus parallelus* new species

Very elongate and parallel, thorax impressed each side at base, but less strongly than in *teretrius*, the dorsum less arched longitudinally than in that species. Head and thorax uniformly, finely punctate, thorax as wide as the elytra, one and one-half times as wide as long, sides rather parallel at base, thence arcuate to apex. Elytra with rather fine striae, with subelongate punctures but little larger than those of the intervals, these rather finer than the thoracic ones and with the usual arrangement, although rather more distant than in the next species. Prosternum with striae more strongly divergent, reaching the anterior third or fourth, somewhat convex and punctate more closely in front, more broadly convex in front, punctures of flanks, sides of metasternum and abdomen similar and much as in the next. Length 3.5 to 3.7 mm.

One more slender specimen has the antennal club a little broader and is, I presume, a male. There is no trace of long hairs on the metasternum. This is the most elongate species seen and could only be confused with the following, which it closely resembles in punctuation, although punctures are rather finer and sparser. The much more elongate form, less arched dorsum and less impressed base of thorax will distinguish it. The prosternum also is broader and more convex anteriorly, and the striae more divergent.

Virginia—one specimen (Mr. Liebeck); three in the Zimmerman Collection at Cambridge, without locality but undoubtedly southern.

⁴Bull. Brookl. Ent. Soc., 1916, p. 63.

2. *Aulonothroscus teretrius* new species

Elongate, parallel, convex; piceous brown, the prothorax deeply bi-impressed at base; pubescence very fine, the coarser hairs short. Head and thorax uniformly punctate, the latter more coarsely and closely. Thorax as wide as the elytra, about one and one-half times as wide at base as long, sides arcuate from base to apex, a little more obliquely in the male. Elytra parallel, slightly obliquely impressed behind the humeri, striate with moderately close, sub-elongate punctures larger than those of the intervals, the latter a little finer than those of the pronotum and with about the usual arrangement, two to five with irregular double punctuation at base, which becomes single behind the middle, the outer intervals and the sutural with single series. Prosternum sparsely punctate, a little more closely anteriorly, striae gradually a little divergent anteriorly, reaching the anterior third or fourth; punctures of the flanks of the prothorax and those of the abdomen about alike in size, a few coarser ones at the sides of the metasternum, becoming smaller and sparser at middle; mesosternal suture not evident. Length 2.9 to 3.5 mm.

The male has the club wider and pubescent, the female also has the club joints slightly produced laterally. The larger specimens at first sight might be confounded with *parallelus*, but they are evidently more robust and the prosternal striae are less divergent. The male antennal club is broader than in that species. One male has remains of long pubescence on the metasternum, but the others are in too poor condition to show it.

I have seen three males, Detroit (Hubbard and Schwarz—Nat. Mus. Coll.); one male, two females, Black Mountains, North Carolina (Van Dyke and Beutenmüller) and three females without locality in the Cambridge Museum originally from Zimmerman. Type in Nat. Museum Collection. Type No. 7766.

3. *Aulonothroscus schwarzi* new species

Elongate and parallel like *teretrius*, finely, thinly pubescent, the coarser hairs fine and not conspicuous, sparsely punctate. Head moderate, convex, not closely punctate; eyes small, alike in the sexes, minutely nicked at the insertion of the antennae. Antennae with joints laterally produced in both sexes, much more so in the male. Thorax convex and strongly bi-impressed at base, scarcely more dilated at sides behind in the male, in both sexes sides parallel at base, thence strongly arcuate to anterior angles, uniformly, not closely punctate, a subobsolete carina visible at hind angles in some specimens. Elytra elongate parallel, finely striate, first and second a little more finely, with moderately close, rounded punctures, not at all elongate, finer in the sutural and subsutural striae; intervals not closely punctate, on two to five almost regularly biserially so towards the base, becoming uniserial behind; sutural and six to seven uniserial, eight to nine biserial, the latter finer but distinct. In one small male the punctures are almost entirely uniserial. Prosternum sparsely punctate, punctures larger and more numerous ante-

riorly, feebly convex, striae diverging in front and reaching anterior third; sides, and sides of metasternum and abdomen variolate punctate, femora sparsely variolate punctate. Length 2.5 to 3.5 mm.

May be known by the parallel form, divergent prosternal striae, and strictly punctiform impressions of striae. In the small male the general punctuation is fine and is less obviously variolate beneath.

Florida—four collected by Hubbard and Schwarz (National and Cambridge Museums); Texas—one much larger female in collection of F. C. Bowditch. Type No. 7767 National Museum Collection.

4. *Aulonothroscus punctatus* Bonvouloir

Dark brown, form oblong, not narrowed behind, pubescence fine. Head convex, rather sparsely punctate, the male with eyes moderate, not obviously larger than in the female. Antennae with the joints of the male club more produced than in the female, inner side nearly as long as the distal, which is slightly concave; tenth joint narrowed outwardly, nearly twice as long as broad, distal side concave; eleventh joint rather broad, distal side oblique, outer and proximal sides broadly arcuate, widest beyond the middle. Thorax clothed with erect pubescence, at base wider than the elytra, apex about one-half as wide as base, sides at base parallel or even convergent behind, thence slightly arcuate and obliquely narrowed to anterior angles, margin reaching anterior fourth, surface convex, slightly flattened at angles and strongly bi-impressed at base, moderately regularly, not very closely punctate, the punctures fewer and finer at hind angles. Elytra elongate, obliquely impressed behind the humeri, arcuate from posterior third to apex, striae fine, not much impressed, with close subelongate punctures, intervals two, three and five irregularly and not closely punctate to middle, sutural and outer with uniseriate punctures, those of sutural two very fine and indistinct. Prosternum feebly convex, sparsely punctate, a little more coarsely in front, striae reaching anterior third, sides sparsely variolate punctate; sides of metasternum a little more strongly and closely, the abdomen sparsely and more finely punctate. Metasternum largely covered with fine, soft, erect pubescence. Length 2.9 to 3.9 mm.

The female may be much larger than the male: it is then more coarsely punctate on the thorax and with elytral striae stronger. The sides of thorax are not dilated at base and are broadly rounded to apex, the hind angles with short obtuse carina more or less distinct; margin reaching anterior fourth. Smaller specimens occur with the thorax more finely punctate, and similarly the males vary in size and punctuation.

Bonvouloir's description applies well enough to the female,

which Dr. Horn, however, described as *invisus*. The latter author very evidently referred the females of *constrictor* to *punctatus*, a specimen so labelled having been sent me by Dr. Skinner from the Horn collection. Dr. Horn also so named specimens which I sent him on two or three different occasions. It would appear that neither author had seen the male.

Specimens have been seen from Massachusetts, New York, Pennsylvania, New Jersey, Maryland, Virginia, Ohio, Michigan and Iowa.

5. *Aulonothroscus validus* LeConte

Elongate, robust, punctuation fine. Head clothed with very fine pubescence, the longer hairs fine, the very finely, densely punctate surface plainly visible through the pubescence. Head convex, finely, sparsely punctate; eyes small, alike in the sexes, with a minute emargination, orbits narrowly impressed. Antennal club with joints slightly produced laterally in the female and scarcely more so in the male, the pubescence not conspicuous. Prothorax convex, sides at hind angles a little more dilated and explanate and more oblique to the anterior angles in the male, rather strongly arcuate in the female, distinctly, broadly bi-impressed at base, side margin fine, reaching from base to anterior third or fourth, hind angles not evidently carinate, surface extremely minutely, rather closely punctulate and with rather sparse variolate punctures, finer anteriorly and at the sides, coarser at the middle and base. Elytra elongate subparallel, broadly and obliquely impressed behind the humeri, surface minutely punctulate, striae very fine with rather distant, minute punctures, coarser toward the base, intervals rather sparsely, irregularly, variolate punctate (the sutural with a single series of minute punctures) becoming somewhat uniseriate behind, coarser and confused at apex. Last dorsal feebly projecting at apex. Prosternum coarsely variolate punctate in front, more finely and much more sparsely behind, striae reaching from base to middle or a little beyond; sides rather coarsely and sparsely variolate punctate. Metasternum very finely and sparsely punctate at middle, the punctures a little larger anteriorly, more coarse, dense, and variolate at sides. Abdomen sparsely variolate punctate along the middle, more closely and coarsely at sides, and especially on the last ventral. Length 2.5 to 5 mm.

The male has the long soft pubescence of the metasternum seen in several other species, but rather less developed in area apparently. The females seem to far outnumber the males in collections. The lateral carinae of the clypeus are usually quite distinct, limiting the antennal fossa, but they are also sometimes feebly evident in *punctatus*, *constrictor*, *calocerus* and *laticeps*.

Northern counties of California to Lake Tahoe, also in Santa Clara County; Nevada; Oregon; Washington; Vancouver, British Columbia.

6. *Aulonothroscus laticeps* new species

Elongate, feebly narrowed behind, pale reddish brown above and below, the head above and the thorax except the hind angles, darker. Pubescence very fine, the usual coarser hairs rather short and fine. Head large, finely punctate, flattened and exactly vertical between the eyes when retracted, the latter, in the male, large, separated by little more than a diameter, orbits distinctly though finely impressed on the inner side, a small but distinct emargination at the insertion of the antennae. Prothorax nearly twice as wide at base as long, as wide at base as the elytra, and at apex about two-thirds as wide; disk convex, strongly bi-impressed at base, the hind angles broadly explanate, with a short very fine but distinct carina near the margin; sides at base parallel, then strongly arcuate to a little before the middle where the margin ceases, thence slightly obliquely narrowed to the anterior angles, forming a marked sinuation before the middle; surface rather finely and closely, uniformly punctate, more finely and sparsely towards the hind angles, narrowly impunctate inside the carina. Elytra elongate, slightly obliquely impressed and constricted behind the humeri, thence broadly arcuate and feebly narrowed to near the apex, where they are strongly arcuate to tips, finely striate, with small, subelongate, rather close punctures a little larger than those of the intervals, which are rather fine, irregular at basal half of the elytra on the second to fifth intervals, in single series beyond the middle and on the sutural and outer intervals. Prosternum flat, punctate, striae parallel and nearly entire, flanks and also the metasternum and abdomen rather finely, not very closely punctate. Metasternum in the male with a long, soft, erect pubescence. Length 3 mm.

The only specimen seen is a male (Nat. Mus. Collection; Type No. 7768), collected by Hubbard and Schwarz at Detroit, Michigan. The antennae are hidden, but will no doubt resemble those of *calocerus*. It is nearest to *calocerus* but is distinct from the male of that species by the yet larger eyes, the more explanate hind angles of the prothorax and the less close punctuation of the elytral intervals. *Calocerus* also is entirely piceous brown, but darker specimens of *laticeps* may occur. The sinuation of the sides of the prothorax recalls the form seen in *Pactopus* male, though less strong, the thorax being shorter and wider at apex.

7. *Aulonothroscus calocerus* Bonvouloir

Very similar in form to *constrictor* but larger and with a shorter thorax; pubescence coarse and conspicuous. Head large, finely, moderately punctate, the pronotum rather uniformly and a little more coarsely so. Eyes with a very small emargination at the insertion of the antennae; larger in the male; front convex. Antennae in the male with club strongly pectinate and with erect pubescence; first joint stouter and twice as long as the second, the latter short and thick, as long as wide and equal to the third and fourth, third to eighth very small and close, slightly transverse; the sixth, seventh and eighth

feebly serrate; ninth triangular, outer angle strongly and narrowly produced, the anterior or apical side next to the tenth joint being deeply sinuate or emarginate; tenth joint with the inner side or axial length equal to the same side of the ninth, slightly sinuate, obliquely produced laterally, the anterior side deeply sinuate; eleventh joint strongly laterally produced, narrowly acute at point of attachment to tenth, gradually wider externally, the proximal side at first nearly straight then broadly arcuate to the somewhat acute apex, distal side straight, widest a little beyond the middle and about three times as long as wide. The sinuation of the distal sides of the ninth and tenth joints is deep and the proximal sides of joints ten and eleven are broadly arcuate, so that when the joints are closely applied there are large openings between. Antennae of female not seen. Thorax transverse, a little more than one and one-half times as wide at base as long; in the male wider than the base of the elytra with hind angles explanate and punctate, parallel at sides, thence arcuate and feebly sinuate and oblique to anterior angles, wider in front in the male than in the female. In the female the sides of the thorax are rather broadly arcuate from base to apex, a feeble sinuosity behind the middle, hind angles not explanate; carinae not evident in either sex, strongly bi-impressed at base; punctuation of pronotum rather coarser in female. Elytra slightly, obliquely impressed behind the humeri, sides a little rounded, scarcely narrowed, obtuse at apex, in male a little less rounded and apex less obtuse; striae stronger in the female, with rather close, subelongate punctures larger than those of the intervals which are rather small and close, irregularly double or even triple on the second, third and fifth intervals, the irregular punctuation reaching farther than usual posteriorly; sutural and outer intervals uniseriately punctate. Last abdominal segment not projecting beyond the elytra. Prosternum flat in male, rather sparsely and finely punctate, striae nearly entire, sides of body moderately punctate, the metasternum at middle very sparsely and finely so, the metasternum largely covered with long, soft pubescence. In the female the prosternum is somewhat convex and more coarsely punctate, sides of prothorax and metasternum more coarsely and the abdomen also more closely punctate. Length 3 mm.

One pair of nearly equal size from Fredericksburg, Virginia (W. D. Richardson).

The male may be easily distinguished by the characters given; the female looks much like a large female *constrictor* or a smaller female *punctatus*, from the former (of which I have seen none quite so large) it may be known by the elytra less constricted and not narrowed behind and more obtuse at apex, and the more numerous punctures of the intervals and the coarser and closer punctuation of the abdomen. The larger females of *punctatus* will be easily recognized, but owing to the variability of the punctuation in this species I am led to fear some difficulty in always placing the female of *calocerus*, if the specimen above described is the true female. It might be mentioned that this female was

selected from a series of about three dozen specimens of *constrictor* from the same locality, two of them bearing the same date—June 7, 1900, the rest, May 14 to 30 of the same year; the male, May 19, 1891. The prosternal striae are rather more abbreviated in the male, and as much so as in many *punctatus*. A second female from "N. Y." (Chas. Fuchs Coll.) I am inclined to place here also; in it the prosternal striae are longer as in the male, the punctuation triple on the third interval and double on the first to the middle. In the Virginia examples the punctures are double only a very short distance at the base of the first interval.

Bonvouloir described and figured this species, giving also a fairly characteristic figure of the antennae in the short paper which appeared shortly after his monograph. As may be inferred it is very different—especially in the male—from *constrictor*, of which it was made a synonym by Dr. Horn, who probably had not seen a specimen.

S. Aulonothroscus constrictor Say

Oblong, robust, narrowed behind, brownish piceous or with the elytra rufopiceous in the male; rather coarsely hairy, integuments shining. Head convex, finely, not closely punctate, clypeus with side margin limiting antennal foveae more or less evident; eyes small, scarcely larger in the male, feebly nicked at insertion of antennae. Antennae with club very similar in the sexes, slightly asymmetric, the tenth joint transverse, the last joint smaller in the female. Thorax convex, strongly bi-impressed at base, sides arcuate in the female; slightly dilated at base, parallel and then oblique in the male; margin two-thirds to three-quarters of the length, carina of hind angles feeble or wanting, rather coarsely and uniformly punctate in the female, more finely in the male. Elytra twice as long as wide, distinctly narrowed behind, obliquely impressed behind the humeri, more strongly in the male, striae well defined, with closely placed elongate punctures, not coarser at apex, intervals with the usual irregular punctuation reaching on the disk to or behind the middle, thence uniseriate; in the female sometimes irregular and double to the tip on the fifth interval, the punctures nearly as large as those of the pronotum; outer intervals more finely and sparsely punctate, six to eight mostly uniseriate except at immediate base, the ninth interval in the female showing a double series of fine punctures its whole length, these being so fine in the male as to be observed with difficulty. Prosternum rather wide, sparsely punctate, striae usually nearly entire, sometimes, especially in the female, shorter, but the margin itself reaching very nearly to the apex. Flanks of prothorax and sides of metasternum and abdomen rather coarsely and closely punctate, metasternum at middle much more finely and sparsely so. Length 2 to 3.3 mm.

The shorter measurement applies to an exceptionally small male. This species appears to be the most common one from the Mississippi Valley to the Atlantic. The name was given by Say to "our insect" without any adequate description, he apparently having known but one species. In his Monograph, Bonvouloir described and figured the male under this name, but in a supplementary publication he described the female received from Dr. Schaum as a type of Say's species, and substituted the name *alienus* for the previously described male, which he says is very near but is really distinct.

The simple antennal club, little different in the sexes, the long prosternal striae and almost entire margin, and the form narrowed behind must be relied upon for the separation of this species.

New Hampshire, Vermont, Massachusetts, New York, Pennsylvania, New Jersey, District of Columbia, Virginia, Michigan, Wisconsin, Minnesota, Illinois, Ohio, North Carolina, Georgia, Florida and Arkansas. One specimen labeled "Or." I think is open to doubt.

[*A. rugosiceps* Schaeffer probably comes in here. See remarks following table of species. H. C. F.]

9. *Aulonothroscus detritus* new species

Very small, pale reddish brown, shining, slightly narrowed behind, clothed with fine and coarse hair. Head convex, finely punctate; eyes small, entire and widely distant, orbits very finely impressed, intra-antennal ridges feeble. Thorax not very convex, feebly bi-impressed at base, nearly one-half wider than long, in front as wide as long, sides broadly arcuate, margin fine, scarcely more than one-half, obtusely carinate at hind angles, disk very finely, sparsely punctured, the punctures larger toward the sides and very much larger toward the hind angles; base at middle feebly lobed, broadly sinuate each side, hind angles prolonged. Scutellum as usual small, truncate in front, arcuate each side, as broad as long. Elytra not much more than twice as long as wide, feebly, obliquely impressed behind the humeri, sides broadly arcuate and slightly narrowed behind, rather obtuse at tip; striae extremely fine, with distant, minute punctures becoming more evident at tip; intervals with very fine, sparse, mostly uniseriate punctures. Prosternum narrow, striae parallel, abbreviated by about one-fourth, a few minute punctures anteriorly, punctures coarser on flanks of prothorax and sides of metasternum, a short transverse row on first ventral at sides; middle of metasternum minutely, sparsely punctate, a little more coarsely in front. Abdomen finely, sparsely, variolate punctate, a little more coarsely on last ventral. Length 1.8 mm.

The hind angles of the prothorax are not at all dilated and I think the one specimen is probably a female. The antennal

club is small with long irregular hairs. The tenth joint is transverse and it is likely that the male will have a much broader club. In size and in the minute punctuation this resembles *Throscus parvulus*. If this be a female, the male is liable to be very minute indeed.

Brownsville, Texas (Wickham).

10. *Aulonothroscus distans* new species

Elongate, narrowed behind, piceous brown with the usual finer and coarser pubescence, closely and minutely punctulate above and below and with coarse, sparser punctures. Head bicarinate, the carinae somewhat variable in prominence, widely separated on the occiput, thence narrowing to about one-half at the clypeus, on which they feebly diverge; surface finely and sparsely punctate; eyes moderate, alike in both sexes, with a small, but distinct, rounded emargination, and bounded on the inner side by a deep groove from the emargination to the upper margin. Antennae with the club feebly pectinate, contractile and pubescent in the female, much more strongly so in the male and clothed with conspicuous erect pubescence. Thorax nearly twice as wide at base as long in the male, and as wide as or a little wider than the base of the elytra, sides parallel at base, thence obliquely narrowed to the apex, which is about equal in width to the length at the middle. In the female the thorax is a little narrower and more arcuate from base to apex, side margin reaching the anterior fourth, carina of hind angles short and fine, about one-fourth the length of the margin, surface rather convex, a small impression at base each side of the scutellum, thence to the carina the base is somewhat flattened. Elytral punctures rather fine and uniform, about two diameters apart; striae well defined, with moderately closely placed, rounded punctures, which as well as those of the intervals are about the same as the thoracic ones; sutural interval with a single series of punctures; second, third and fourth irregularly double at base, becoming single posteriorly; outer intervals with single series, the marginal stria much deeper and wider. Beneath minutely punctulate and pubescent; prosternal striae parallel, feebly divergent anteriorly, interval smooth, finely, very sparsely punctulate at base, less finely and sparsely at apex; flanks rather coarsely variolate punctate; metasternum and abdomen rather finely, not closely punctate. Length 2.6 to 3 mm.

The punctuation is variable, being much finer and sparser in some examples. The extreme measurements are both from females.

Marion, Massachusetts (1 ♀, Bowditch); Central New York (D. B. Young), (Dr. Blaisdell, 1 ♀); Black Mountains, North Carolina (2 ♂, 1 ♀, Beutenmüller).

11. *Aulonothroscus pugnax* Horn

[Mr. Blanchard's manuscript contains no description of this species, of which he had seen no specimens. The original de-

scription was based on a single male from Florida. In Insect Life (III, p. 41), Mr. Schwarz records the finding of a specimen in the District of Columbia. This specimen was afterward lost in sending it to Dr. Horn. H. C. F.]

12. **Aulonothroscus convergens** Horn

Elongate, narrowed behind, piceous or reddish brown, clothed with fine pubescence and conspicuous longer hairs, surface shining, the minute punctation microscopic. Head convex, finely, sparsely punctate with two, not distant, converging carinae which meet on the clypeus, thence strongly divergent to the lower or anterior angles of the clypeus. Eyes deeply, triangularly emarginate at the insertion of the antennae, orbits finely impressed, separated in the female by a distance greater than their own diameter and in the male by a little less than a diameter. Antennae with the club smaller in the female, but with joints distinctly produced laterally; in the male larger with joints more prolonged laterally. Thorax not very convex, one-half wider than long, apex about as wide as the length, sides finely margined nearly to apex, a fine distinct carina within, more than half as long as the margin, feebly bi-impressed at base, finely, uniformly, not closely punctate, sides broadly areuate in female, in male more dilated at base with sides parallel, then obliquely narrowed anteriorly. Elytra as wide at base as thorax, gradually, distinctly narrowed behind, more strongly in the male, broadly obliquely impressed at sides behind the humeri, striae very fine with rather distant, small punctures not larger than those of the intervals, which are smaller than those of the pronotum, sparse and a little irregular near the base but mostly uniseriate and finer, those of the striae much coarser at apex. Prosternum narrow with striae parallel and entire, a few small punctures anteriorly, flanks and sides of metasternum rather strongly and coarsely cribrate, middle of metasternum and hind coxae more finely punctate. First ventral with coarse punctures at sides, the other segments sparsely punctate, the last more coarsely. Length 1.7 to 2.5 mm.

Like *distans* this species is very similar in form to *Throscus chevrolati*, and more especially to the large form named *carinicornis* by Schaeffer. From *distans* it is easily distinguished by the much more deeply emarginate eyes differing in the sexes, and much more approximate carinae. The carinae are variable in prominence, being sometimes quite feeble. *Pugnax*, with similar eyes, has the carinae parallel, not meeting at the front margin.

Specimens are before me from New York, District of Columbia, Tennessee, North Carolina, Georgia, Florida and Louisiana.

13. **Aulonothroscus nodifrons** new species

Form of *convergens* female or a little stouter, narrowed behind, brownish piceous, finely pubescent, the longer hairs of the elytral striae distinct; elytral striae nearly obsolete except the sutural, which is fine, and the deep ninth or marginal. Head rather coarsely punctate, less closely on the occiput, convex, the epistoma anteriorly abruptly inflexed, deeply impressed and strongly,

broadly emarginate, the emargination apparently with a fine membranous border, the clypeus filling the emargination, hence nearly as long as wide, the anterior outline strongly, narrowly arcuate at middle, somewhat oblique each side, broadly arcuate behind, and bearing a small, distinct, smooth, subacute tubercle at middle. Front bicarinate, the carinae distant on the vertex nearly the width of the eyes, at first parallel, then slightly divergent an equal distance and uniting with the well-marked transverse margin of the front above the antennae, which reaches the emargination of the eye. Eyes moderate in size, broadly and deeply triangularly emarginate two-thirds the width of the eyes, the inner lobe much narrower than the outer; orbits impressed on the inner side. Antennae with first joint short, stout, the second shorter and not quite so thick, third to eighth as usual; club small, scarcely longer than the preceding six joints, finely irregularly pubescent; ninth joint as broad at apex as long, tenth transverse, one-half wider than long, eleventh triangular, axial side longest. Prothorax transverse, narrowed in front, sides arcuate and distinctly margined very nearly to the anterior angles; a well-defined carina from the hind angles to middle, parallel with and near to the margin; base of usual form, feebly bi-impressed at middle, surface shining, sparsely, rather coarsely punctate on the disk, more closely at the sides, a sparse, very fine punctuation interspersed. Elytral striae except sutural and marginal very difficult to trace, being represented by fine, rather distant punctures not differing from the sparse punctures of the intervals, but becoming stronger at apex; humeri briefly, obtusely tricarinate due to the impressions of the seventh and eighth striae. Beneath, prothoracic flanks coarsely, not densely punctate; prosternum at middle with margins defined to apex, becoming much wider behind; sulci entire, parallel, the interval from front to rear, gradually more strongly, narrowly convex or subcarinate; a few distant punctures anteriorly, more finely and very sparsely punctate behind, the deeply concave sides punctate. Metasternum and abdomen moderately, coarsely, not closely punctate; tarsal grooves somewhat arcuate. Length 3 mm.

A single female specimen collected at Brownsville, Texas, by Mr. Chas. Schaeffer and belonging to the Museum of the Brooklyn Institute.

Distinct from other species of the *convergens* group in our fauna by the effaced elytral striae, the form of the clypeus and labrum, the still more deeply emarginate eyes, and other characters. Dr. Horn describes *Aulonothroscus fraternus* (2 mm.) from Mexico, in the *Biologia*, as having the elytral striae indicated by fine punctures, prosternal striae entire and eyes entire. In our fauna those species having entire eyes have the prosternal striae abbreviated, while the species with entire prosternal striae have the eyes distinctly more or less emarginate. The male of the present species will undoubtedly have the antennae larger; its discovery will be awaited with much interest.

THROSCUS Latreille

The species of this genus in our fauna are as a rule much less robust than the species of *Aulonothroscus*, more finely sculptured and paler in color. The antennae exhibit little variation. In *carinicollis* the club is a little broader and more hairy in the male, and the eyes are larger in the same sex. Our species with divided eyes and entire prosternal striae, have in the male the elytral margin with a rather conspicuous spreading fringe of pale hairs, some vestiges of which almost always remain in the most poorly preserved specimens. This character was first observed in certain European species about the time of Dr. Horn's paper.

In the European fauna all the members of the tribe Throscini belong to this genus. In the Wiener Entomologische Zeitung (VIII, p. 35), Reitter gives a synoptic table of eleven species.

Our species may be separated as follows:

1. Eyes entire; head not carinate; prosternal striae entire.....1. **horni**
 Eyes deeply divided; head bicarinate.....2
2. Prosternal striae entire; elytra of ♂ with fringe of long hairs.....3
 Prosternal striae abbreviated; elytra ♂ not fringed.....6
3. Pubescence long.....4
 Pubescence short and closely appressed.....5
4. Eyes larger, especially in the ♂, orbits impressed; cephalic carinae stronger
 and rather more parallel.....2. **carinicollis**
 Eyes smaller, alike in the sexes; size smaller and form narrower.
3. **chevrolati**
5. Form broader, less narrowed behind, interstrial punctures becoming vario-
 late posteriorly.....4. **mendax**
6. Pubescence very short and close.....5. **sericeus**

1. **Throscus horni** nom. nov.

[This name is proposed by Blanchard for the *alienus* of Horn's Synopsis, which was not the true *alienus* of Bonvouloir, the latter being really the male of *constrictor* Say. The species was quite unknown to Blanchard and he attempts no description. The species, according to Horn, "occurs in the Gulf States." H. C. F.]

2. **Throscus carinicollis** Schaeffer⁵

Elongate oval, narrowed behind, dark or reddish brown with a fine, close pubescence and coarser hairs intermixed. Head convex, finely, not closely punctate, rather strongly bicarinate, the carinae parallel or nearly so in the male, feebly divergent above in the female. Antennae in the male with club broader, somewhat contractile and equal in length to joints one to eight, in the female smaller and only equal in length to joints three to eight. Eyes larger in

⁵Bull. Brooklyn Ent. Soc., 1916, p. 63.

male, separated by a little more than a diameter, impressions rather deep and well-marked, orbits impressed. Prothorax broad, hind angles prolonged, embracing the base of the elytra, in the male frequently broader than the latter, in the female of about the same width; feebly convex with two small impressions at middle of base, side margins reaching anterior third or a little more; hind angles finely carinate, more evidently in the male, sides parallel at base in male, thence briefly arcuate and very feebly sinuate and obliquely narrowed to apex, the latter one-half as broad as base. In the female the sides are rather broadly arcuate from base to apex, finely punctate, the punctures separated by two or three diameters, a little coarser and sparser on the disk behind the middle, finer and still sparser at base, finer toward the hind angles. Elytra twice as wide as long, rather strongly narrowed behind in male, less so in female; very feebly impressed behind the humeri, less so in female; finely, evenly striate with rather close set, elongate punctures, not larger at apex; intervals two to five irregularly, finely punctate at basal half, becoming uniseriate behind; sutural interval irregularly punctate at base in larger specimens, six to eight uniseriately punctate, ninth scarcely evidently punctate.

Prosternum with entire striae, slightly divergent in front, finely, very sparsely punctate, the punctures closer anteriorly; flanks of prothorax coarsely and closely punctate; meso-metasternal suture fine, metasternum nearly impunctate at middle, punctures coarser and closer anteriorly and at sides; hind coxae finely punctate; first ventral with coarser punctures, other segments rather finely, not closely punctate, more closely on last ventral, which is subangulate at apex. Length 2.3 to 3 mm.

I have separated this from *chevrolati* because of its generally larger size, broader thorax, and more narrowed elytra, especially in the male. The eyes seem distinctly larger than in *chevrolati*, and are larger in the male than in the female; the cephalic costae are stronger and more parallel, the antennal club larger and differing more in the sexes. The male has the elytra conspicuously fringed with long hairs. In general the species seems to have a more northern range than *chevrolati*, although examples which I refer here are before me from the Gulf States. The largest specimens are from Idaho.

It is known to me from New Hampshire, Vermont, Massachusetts, Connecticut, New York, New Jersey, Maryland, Alabama, Arkansas, Iowa, Lake Superior, Montana, Idaho, Washington (Spokane Falls) and British Columbia (Caribou).

[I have given above Mr. Blanchard's description and remarks in full concerning this species, but have substituted, for the specific name given by him, that under which Mr. Schaeffer has recently described it. H. C. F.]

3. *Throscus chevrolati* Bonvouloir

Elongate oval, narrowed behind, reddish brown to dark brown, the head frequently paler in color, pubescent with fine and coarse hair. Head with fine, sometimes almost obsolete, distant carinae, slightly divergent above and also on the clypeus below; very finely, not closely punctate. Eyes small, with dividing impression deep, not evidently differing in the sexes. Antennae not greatly differing in the sexes, club with short, even pubescence in the male, more irregularly pubescent in the female, about as long as joints two to eight, ninth joint not longer than wide, tenth broader transversely than long, eleventh somewhat acuminate at apex and about as broad as long, sometimes a little longer than wide. Prothorax two-thirds wider than long, sides more parallel at base in the male, thence obliquely narrowed to apex, margin usually short, but variable; surface finely, regularly punctate, with a fine carina at hind angles more or less evident. Elytra finely striate, striae not closely punctate, intervals with the usual punctures, sides less obliquely and more arcuately narrowed behind than in *carinicollis*. Prosternum with striae entire, divergent in front; finely, sparsely punctate anteriorly; sides of prothorax beneath, metasternum and abdomen punctured nearly as in the preceding species but more finely; punctures at sides of first ventral scarcely coarser. Length 1.75 to 2.75 mm.

After several attempts to satisfactorily separate *parvulus* and *sejunctus*, I am obliged to unite both with the present species. The uniseriate punctures of the elytral intervals, said to be characteristic of the forms above named, do not seem to hold good, the arrangement of the punctures being practically alike in all, but punctures and striae are much finer in western specimens than is usually seen in eastern ones; yet I have seen a very few small specimens from the East (Illinois—Mr. Leng; Michigan and Florida—Nat. Mus. Coll.) that cannot be distinguished from typical *parvulus* from Texas, Vermont, Arizona, and California.

The relatively coarser punctuation of the prothorax and anterior prosternum ascribed to *sejunctus*, seems merely characteristic of larger specimens, usually females.

[Horn says of this species—"widely distributed from the New England States to Louisiana and Iowa." Mr. Blanchard fails to record in his manuscript any of the numerous eastern localities for this species, naming only those that follow, which obviously apply to the western forms *parvulus* and *sejunctus*. H. C. F.]

California (Fresno, Los Angeles); Arizona (Ft. Yuma, Pinal Mountains, Chiricahua Mountains); Utah (Utah Lake, Provo); Oklahoma (Atoka); Texas (Brownsville, El Paso); Michigan (Detroit, a small ♂—Nat. Mus. Coll.) and North Illinois (a small ♀—Leng Coll.).

4. *Throscus mendax* Horn

Oblong, feebly or not at all narrowed behind, rather shining, finely pubescent, the coarser hairs sometimes present but not conspicuous; reddish or darker brown, the elytra frequently darker than the head and thorax. Head finely, closely punctulate with not very evident, sparse, slightly coarser punctures, bicarinate, the carinae distant and slightly convergent in front and divergent on the clypeus. Antennae as usual, the club small, equal to joints two to eight, with a short, close, even, erect pubescence on the margins and upper side in the male, with a few longer hairs intermixed; irregularly pubescent in the female. Prothorax slightly dilated at base in the male, as wide as the elytra, the hind angles more or less evidently carinate, sometimes very feebly so, side margins reaching a little beyond the middle. Anterior width about half that at base, which is about two-thirds greater than the length. Surface slightly convex, feebly bi-impressed at base, finely, sometimes rather sparsely punctate. Elytral striae fine, with fine, rather closely placed punctures; sutural interval finely, uniseriately punctate, the second and third confusedly punctate at base, becoming somewhat uniseriate behind; outer intervals becoming variolate punctate and coarser behind, on the ninth interval only evident posteriorly. Prosternum finely, sparsely punctate, striae slightly divergent in front; punctuation coarser at sides and outside the antennal grooves, also on the hind coxae and first and last ventrals. Male with elytra fringed at sides. Length 2 to 3 mm.

The broader, more robust form, the close, fine pubescence resembling that of *sericeus*, and the variolate punctuation of the intervals distinguish this from any of the forms of *chevrolati*. Some females with the prosternal striae feebly abbreviated have been referred to this species; such specimens will be difficult to separate from large specimens of *sericeus*, if they be really distinct.

Northern California, Oregon and Washington.

5. *Throscus sericeus* LeConte

Elongate oval, narrowed behind, pale reddish to dark castaneous, usually dull, sometimes feebly shining, with a very fine, prostrate pubescence, coarser hairs not obvious. Head convex, finely, closely punctate and bicarinate as usual. Antennae with club small, similar in form in the sexes, with short, even pubescence in the male. Prothorax evidently a little more dilated at base in the male, parallel, thence obliquely narrowed to apex; in the female the sides are broadly arcuate; side margin short, sometimes not quite reaching the middle; carinae of hind angles feebly evident; disk convex, broadly bi-impressed at base, finely, not closely punctate. Elytra finely striate, striae finely punctate, intervals variolate punctate except the sutural and second, the punctures becoming larger behind. Prosternum with the striae distinctly more or less abbreviated in front, finely sparsely punctate, punctuation generally as in *mandax*. Length 1.75 to 3 mm.

Var. **debilis** Horn

Prosternal striae shorter. This is hardly worthy of a name as it runs into *sericeus*.

This species varies almost as much as does *chevrolati*. Some specimens of the *debilis* form are more coarsely punctate above and below, and again the smaller specimens of *sericeus* are frequently very finely punctate. No sexual characters have been observed except the pubescent antennal club and the dilation of the hind angles of the pronotum in the male. Var. *debilis* is more northern—Oregon, Washington and Vancouver—while true *sericeus* occurs in Oregon, California, Arizona, New Mexico and Colorado.